Poznan University of Technology
Faculty of Electrical Engineering

European **C**redit **T**ransfer **S**ystem

Title **Control of Mechatronic Systems**	Code **10103242910103201405**
Field **Electrical Engineering**	Year / Semester **5 / 9**
Specialty **-**	Course **core**
Hours Lectures: **9** Classes: **-** Laboratory: **1** Projects / seminars: **9**	Number of credits **7**
	Language **polish**

Lecturer:

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Status of the course in the study program:

Obligatory subject, Faculty of Electrical Engineering, Field: Electrical Engineering, Specialty: Mechatronic Electric Systems, Extramural first-degree studies

Assumptions and objectives of the course:

Knowledge of control structures and method of the mechatronical systems as well as analysis and synthesis of these systems

Contents of the course (course description):

General control structure of mechatronical system ? requirements and problems. Structures and mathematical models of the dc converter-fed drive. Principles of synthesis of the cascade control structure, criterion of the optimum modul as well as the symmetrical criterion. Revers structures of the dc drive systems, two-zone speed control. Speed control systems of the squirrel-cage as well as slip-ring induction motors, mathematical models, direct as well as indirect flux and torque control, vector control methods. Speed control systems of the synchronous motors, mathematical models, flux and torque control structures. Position control systems ? electric servo drives

Introductory courses and the required pre-knowledge:

Basic knowledge of electrical machines, power electronics and control theory

Courses form and teaching methods:

Lectures, laboratory exercises and projects

Form and terms of complete the course - requirements and assessment methods:

Lectures - exam, projects - tests, assessment of laboratory exercises

Basic Bibliography:

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Additional Bibliography:

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http://www.put.poznan.pl/